



2011-12

Missouri Deer Population Status Report & Deer Season Summary



Missouri Department of Conservation

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Table of Contents

Population Status.....	2
Antler Point Restriction and Harvest Rates	3
Bowhunter Observation Index.....	6
Chronic Wasting Disease.....	7
CWD in Missouri Update.....	7
General Information about the 2011-12 Deer Season	9
Season Dates:	9
Bag Limit	9
Harvest Reporting	9
Archery Deer Season Summary	10
Firearms Deer Season Summary	10
Managed Deer Hunts	10
Table 1. Deer Season Harvest Summary	12
Table 2. Summary of Permit Sales and Harvest by Permit Type.....	12
Table 3. Deer Permit and Harvest Facts.....	13
Table 4. Archery and Firearms Harvest Totals for the 2011-12 Missouri Deer Season.	14
Regional Deer Harvest Trends	19
Deer Management Information & Assistance	21
Deer Information Tailored to Hunters & Landowners	21
Deer Cooperative Assistance	21
Deer Program Research Projects	22



Population Status

One of the goals of deer regulation liberalizations over the last decade has been to decrease deer numbers in many parts of Missouri. In addition to liberalization of antlerless harvest, an antler-point restriction (APR) has been implemented in many counties in an effort to shift harvest pressure from bucks to does (Figure 1). Increased harvest pressure on does should result in fewer does in the population and requiring fewer does to be harvested over time to maintain populations at desirable levels. Over the past several years harvest of does has consistently exceeded antlered buck harvest. The result is a change in the sex ratio of the populations and a projected need to harvest fewer does over time as they make up a smaller portion of the population.

The 2011 deer harvest of 288,594 was a 5% increase from 2010. Most of the increase in harvest occurred across the southern half of Missouri. As populations across north, central, and western Missouri have been reduced, populations in the Ozarks and southeast Missouri have been increasing, resulting in relatively stable statewide harvest.

Efforts over the last decade to stabilize or reduce deer numbers through increased harvest liberalizations and implementation of the antler-point restriction (APR) have been successful in reducing overall deer numbers and the proportion of does in the population. Doe harvest has declined annually since 2004 in Northwest, Northeast and West-Central Missouri. Alternatively, the removal of unlimited availability of firearms antlerless permits from 18 southwest Missouri counties and continued conservative regulations across the Ozarks and southeast Missouri have resulted in slowly increasing populations. While continued liberal antlerless harvest opportunities in northern Missouri are intended to maintain deer numbers at current levels some adjustments to the availability of antlerless permits is necessary to reduce harvest pressure on deer populations in some counties. If high doe harvest rates continue in some central and western counties there is an increasing risk that populations will continue to decline below acceptable levels.

The reduction in deer numbers across many parts of Missouri is reflected in landowner and hunter responses to attitude surveys. Issues of over-abundant deer populations are now relatively isolated situations in which landowners restrict hunter access. Overall, rural deer populations appear stable or decreasing in much of Missouri. Alternatively, managing deer populations in urban communities continues to be a challenge, although a number of municipalities have changed ordinances over the last decade to allow the discharge of archery equipment. Increased hunter access to urban properties has increased deer harvest in some urban areas; however, deer populations in many cities continue to increase.

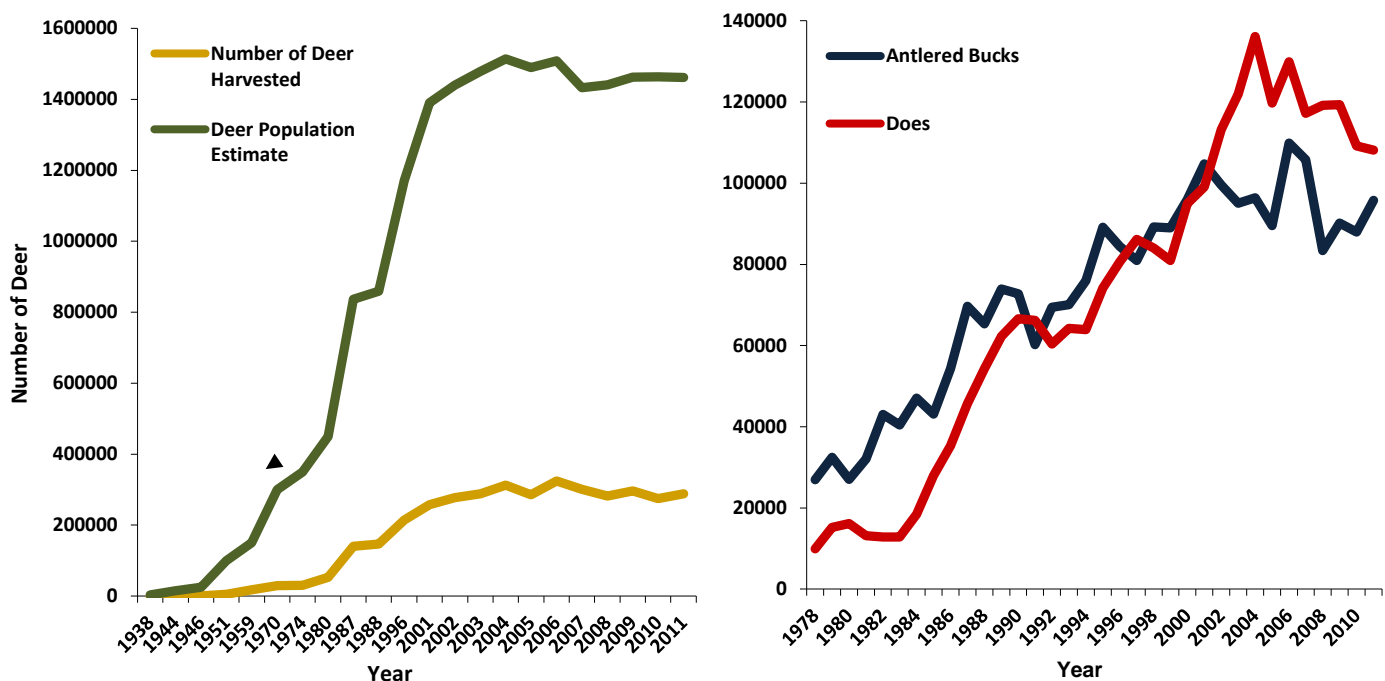


Figure 1. Statewide estimated deer population and total deer harvest from 1938 to 2011 (left). Number of antlered bucks and does in the statewide deer harvest from 1978 to 2011 (right).

The most significant event of the 2011 deer hunting season was the first finding of CWD in two free-ranging white-tailed deer in Macon County. The two adult bucks along with 1075 other adult deer were tested as part of MDC's response to the finding of CWD in a captive facility in October of 2011. Following the finding of CWD in the free-ranging deer population the Department has identified 3 major goals for managing the disease:

1. Determine the prevalence and monitor the distribution of CWD in the affected area;
2. Provide accurate and relevant information on CWD to the public, agency staff, and other stakeholders; and
3. Initiate appropriate management actions to control or prevent the further spread of CWD

In early March the department completed, with cooperation from numerous landowners, the collection of 657 deer in close proximity to the previously identified CWD-positive free-ranging deer and CWD infected captive cervid facility in an effort to better understand the distribution and prevalence of CWD in the free-ranging deer population in north-central Missouri. Testing identified three additional CWD-positive free-ranging deer within 1 mile of the previously identified CWD-positive deer. These findings indicate that at the present time the disease is limited in distribution and has been introduced recently.

Antler Point Restriction and Harvest Rates

An antler point restriction (APR) of 4-points on at least one side was first implemented in 2004 for 29 counties in north and central Missouri (Old Central, Old North; Figure 5). In 2008, the 4-point antler restriction was expanded to all or part of 66 counties across north and west central Missouri. APR has been successful in reducing yearling buck harvest and increasing recruitment of bucks into older age classes. On average in APR counties, in 2010, 1.5 year old bucks make up 17% of the antlered buck harvest. Two and one-half, 3.5 and ≥ 4.5 make up 50, 25, and 8% of the antlered buck harvest, respectively (Figure 5).

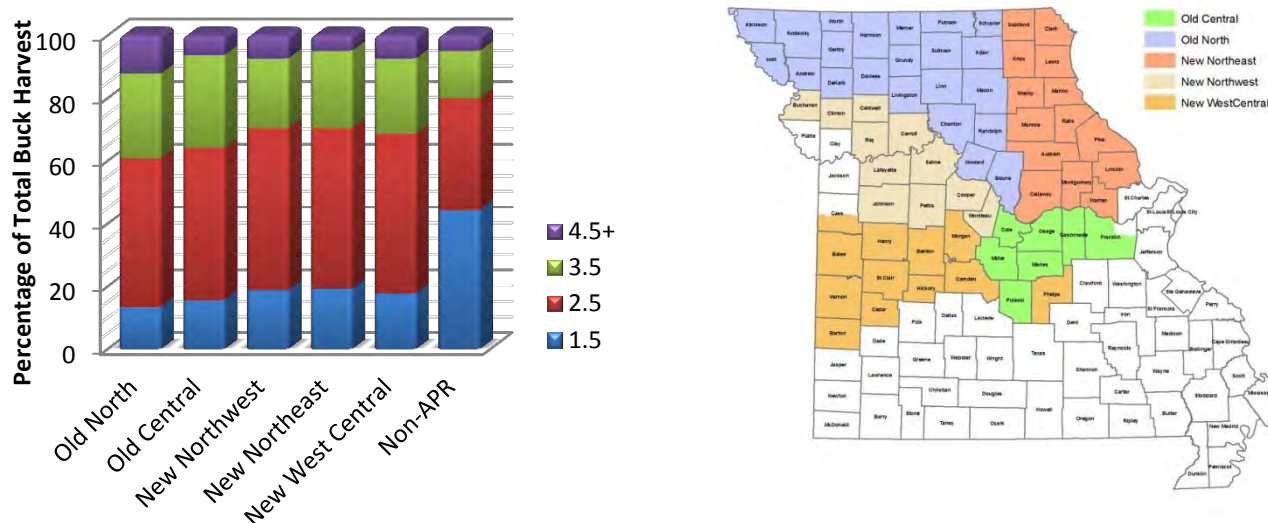


Figure 2. Portion of total antlered buck harvest made of 1.5, 2.5, 3.5, and ≥ 4.5 years old for different regions of Missouri under the 4-point antler restriction and those counties not under antler point restrictions in 2010, color coded to indicate implementation in 2004 ("old" counties) and 2008 ("new" counties).

Harvest of 2.5 year old bucks has increased more than any other age class as a result of the APR. Harvest of bucks ≥ 3.5 years of age is lower in the APR counties added in 2008 because there has only been one cohort of protected yearling bucks recruited into the 3.5 year-old age class since implementation of the APR in the new counties. In the next 2 to 3 years it is expected that the harvest of ≥ 3.5 year-old bucks will increase as additional bucks are recruited into older age classes.

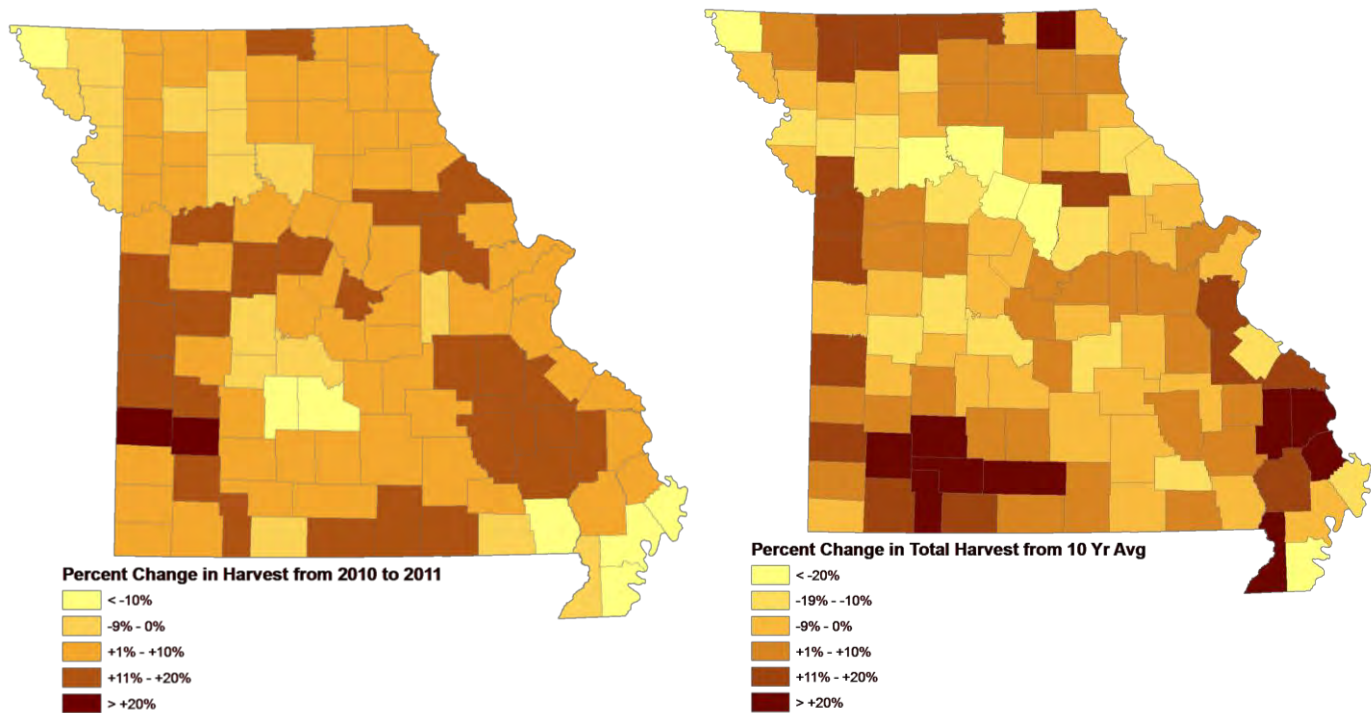


Figure 3. Percent change in total county deer harvest from 2010 to 2011 and change in 2011 harvest from the 10-year average.

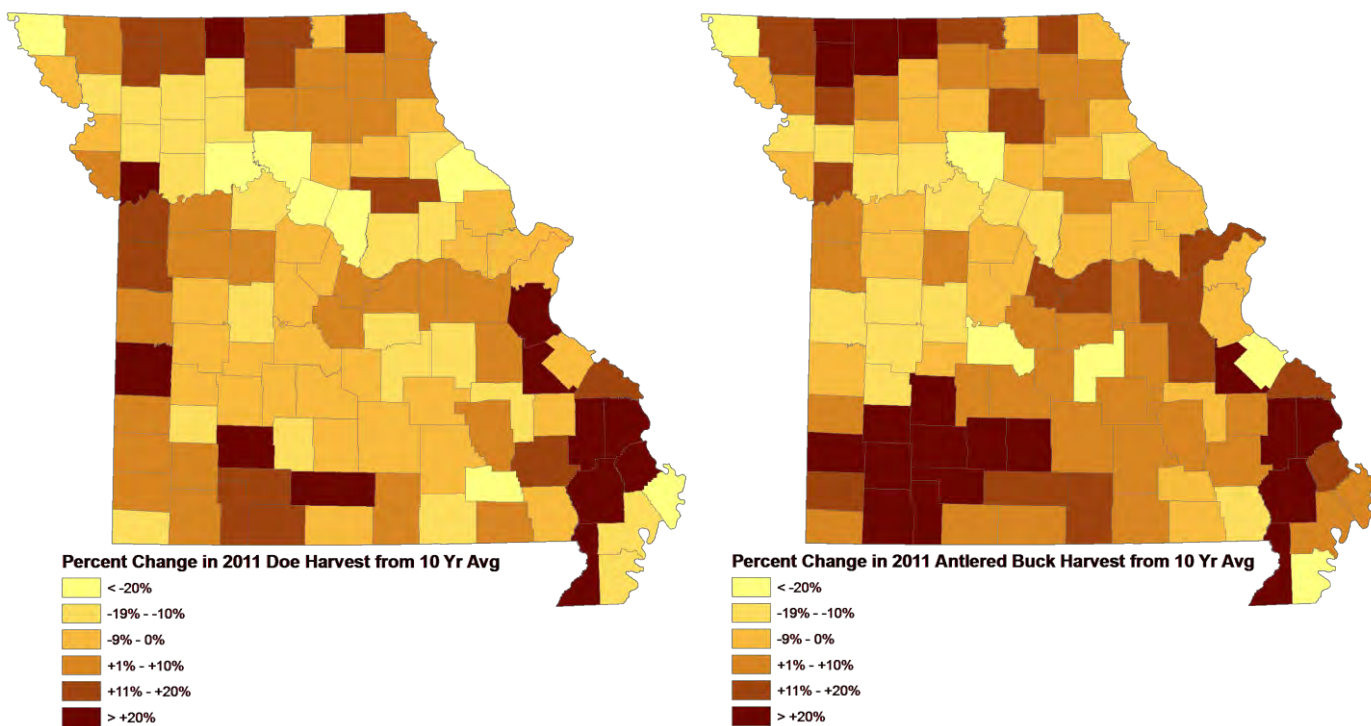


Figure 4. Percent change in 2011 doe and antlered buck harvest from the 10-year average.

Doe and Antlered Buck Harvest Rates

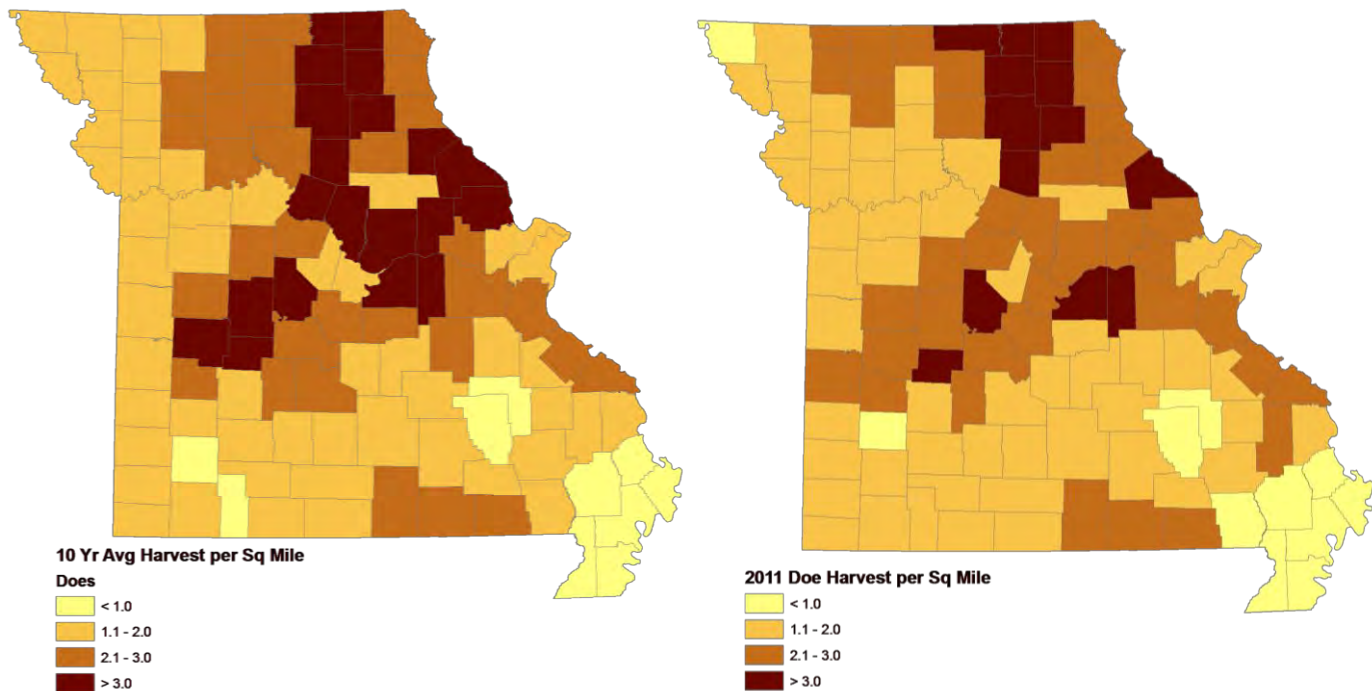


Figure 5. Ten-year average doe harvest per square mile and doe harvest rate in 2011.

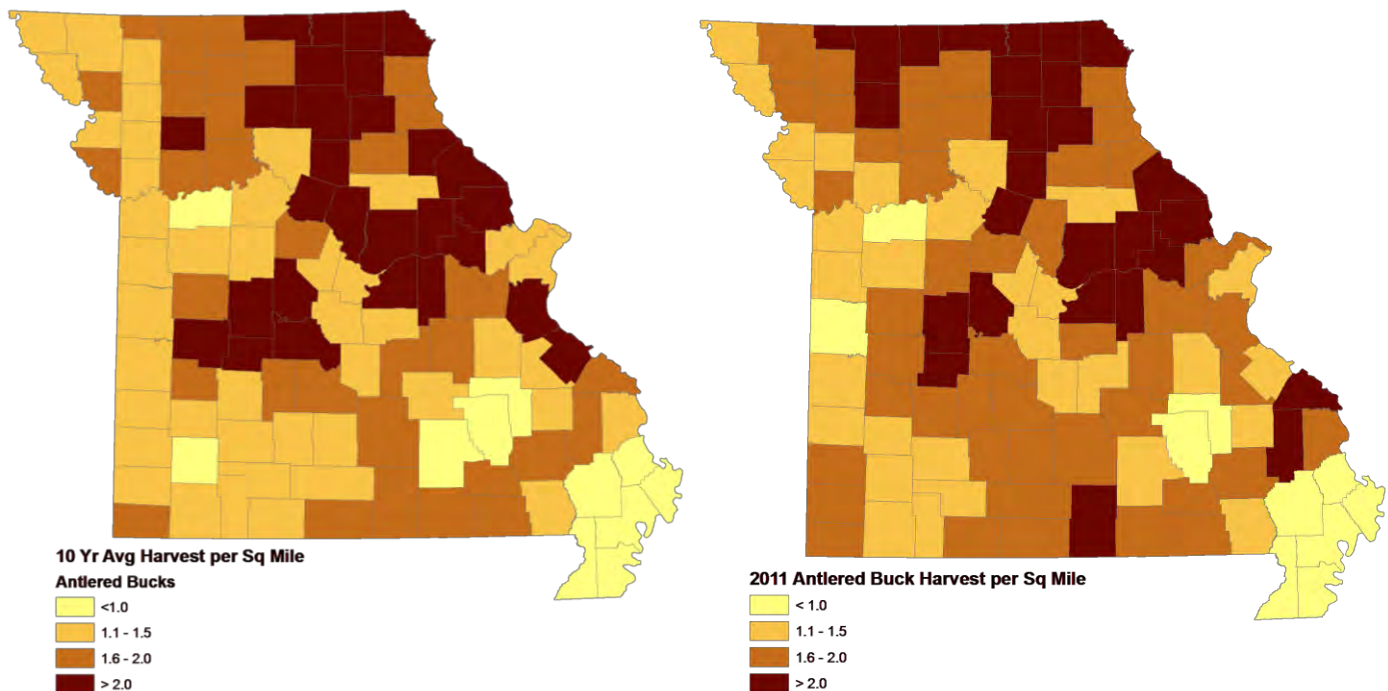


Figure 6. Ten-year average antlered buck harvest per square mile and doe harvest rate in 2011.

Bowhunter Observation Index

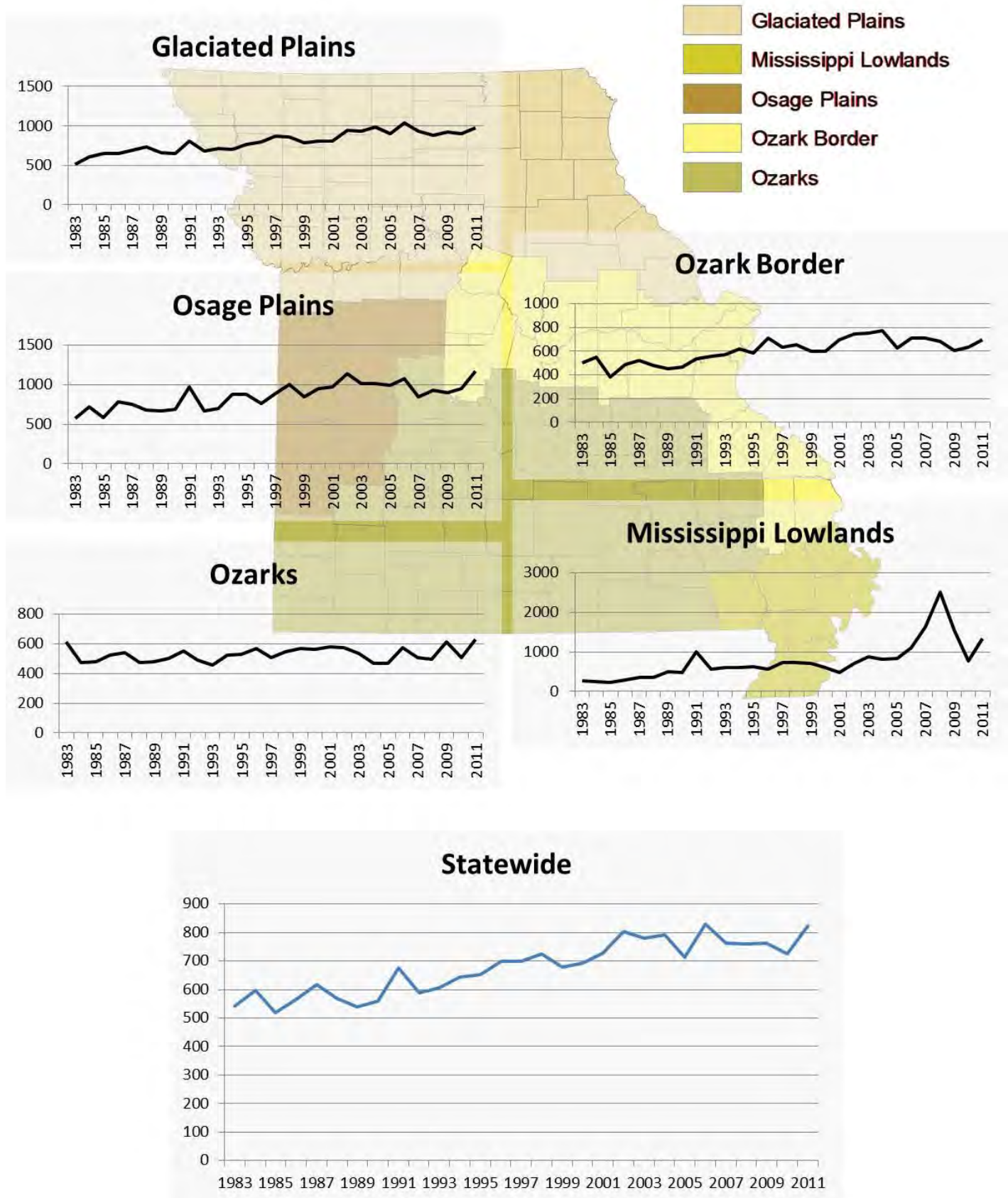


Figure 7. Regional and statewide trend in archery observation index (number of deer seen per 1,000 hours) from 1983 through 2011.

Chronic Wasting Disease

Chronic wasting disease is in a family of infectious neurological diseases known as transmissible spongiform encephalopathies (TSEs). The infectious agent of CWD is an abnormal protein known as a prion. CWD prions accumulate in the brain, spinal cord, eyes, spleen, and lymph nodes of infected cervids. The resulting damage causes abnormal behavior, loss of body function leading to emaciation and eventually death. CWD is a slowly progressing syndrome that may take in excess of a year for clinical signs to appear. During the prolonged period between infection and clinical signs of CWD infected cervids begin to excrete infectious prions into the environment via bodily processes (e.g. defecation, urination, saliva). The shedding of prions in carcasses, feces, urine, and saliva results in direct and indirect transmission between cervids. Although environmental contamination plays a role in maintenance of the disease, animal-to-animal contact is the primary mode of disease transmission. CWD may also be spread directly through the natural movements of infected free-ranging cervids, as well as the interstate movement of infected captive cervids. Indirect transmission may occur through movement of infected carcasses and offal from hunter-harvested cervids and also from contaminated soil and water sources. To determine if a cervid is CWD-positive, a laboratory examination of brain stem or lymph node tissue of the animal has to be completed for testing.



Photo Credit: Dr. Terry Kreeger, Wyoming Game and Fish Department

Research has shown CWD to only infect deer, elk, moose, and other exotic cervids, and that it cannot be spread to domestic livestock, such as sheep or cattle. Also, the Center for Disease Control (CDC) and Missouri Department of Health and Senior Services has found no evidence that CWD can infect people. While there is no scientific evidence that CWD is transmissible to humans or animals other than deer and other cervids, health officials caution that consumption of the parts when the prions accumulate is not recommended.

CWD in Missouri Update

Concerns over the impact of CWD on white-tailed deer populations prompted surveillance activities by the Missouri Department of Conservation (MDC). In 2001, MDC began targeted CWD testing of wild adult deer in poor body condition. Following the first confirmed outbreak of CWD in free-ranging white-tailed deer in Wisconsin, MDC conducted a statewide surveillance of hunter-harvested deer to assess the status of CWD in the free-ranging deer herd. From 2002-2004, nearly 22,000 samples were collected, testing for CWD in every county of the state. Targeted testing of sick deer occurred in 2005 and 2006. In 2007, MDC began a three-year program of CWD testing in which 1/3 of the state was sampled annually. Taxidermists were recruited to collect samples from adult males. Incidence of CWD is highest in adult males so this procedure targeted the most likely sex-age class to be infected. A total 4,125 deer were tested from 2007 to 2009. In an effort to increase sampling intensity and increase the likelihood of early detection, in 2010 MDC began annual sampling ½ of the state. In 2010, 1,995 samples were collected in the northern half of Missouri as part of the random CWD surveillance. An additional 920 samples were collected as part of targeted CWD surveillance in association with the finding of CWD in a captive white-tailed deer in southeast Linn County. Following the confirmation of a second CWD-positive captive white-tailed deer in northwest Macon County an additional 1,077 deer within the CWD Surveillance Zone were tested in the fall of 2011. Additionally, in 2011 approximately 3,000 samples were collected in south Missouri. In total, MDC has tested more than 34,000 deer for CWD since 2001.

Figure Distribution of deer tested for CWD in north-central Missouri from 2010-2011 as a result of the discovery of CWD in 2 captive white-tailed deer in Linn and Macon Counties.

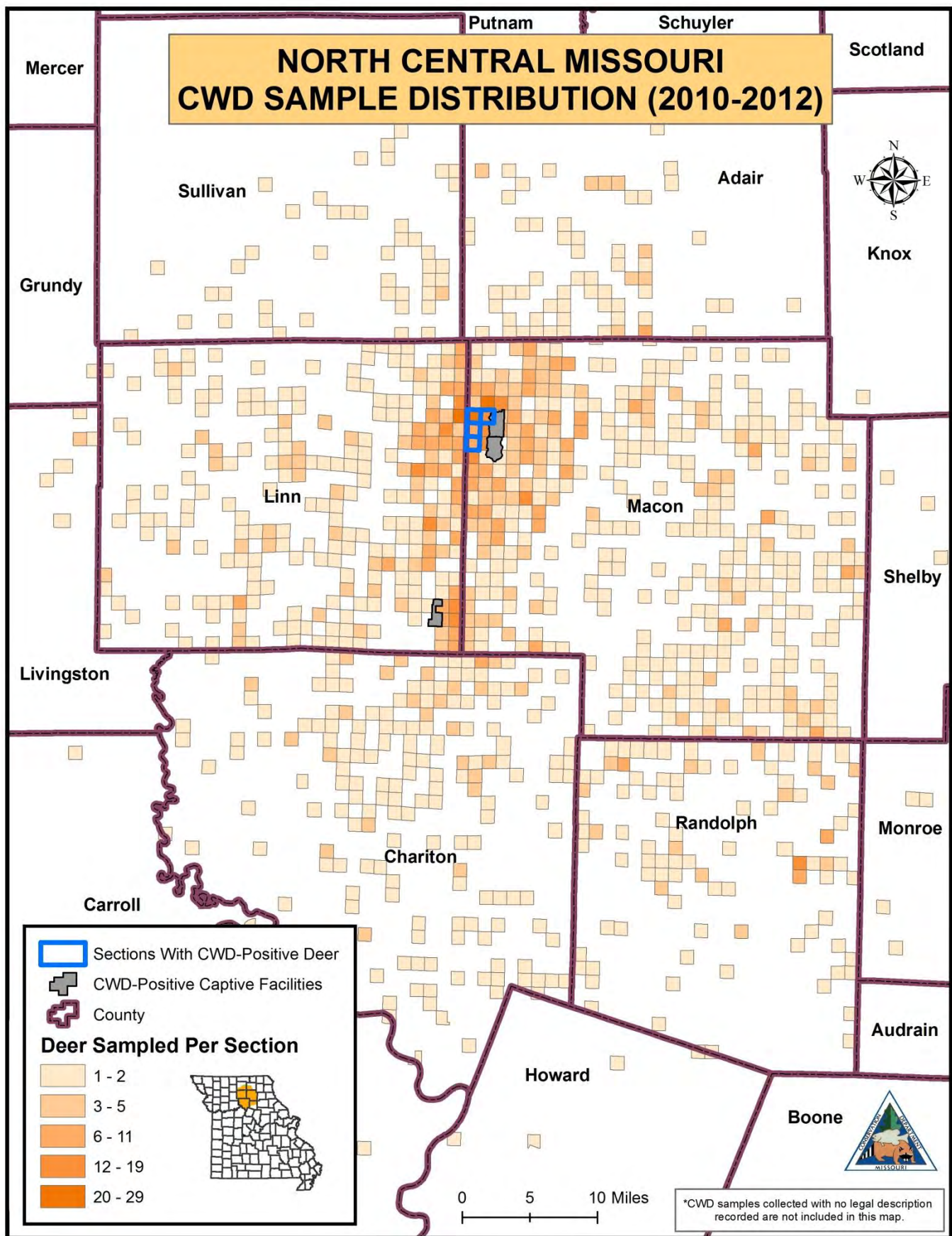


Figure 8. Distribution of deer sampled and tested for chronic wasting disease from 2010-2012 and sections in which deer have tested positive for CWD.

In January of 2012, two free-ranging, adult male white-tailed deer, harvested by hunters during the 2011 firearms season were confirmed CWD-positive in northwest Macon County (Figure 8). These are the first CWD-positives detected in the free-ranging deer population in Missouri. In response to these CWD-positives, MDC immediately initiated a sample collection effort in February of 2012. Samples were collected from 657 deer taken within 5 mile radius of the CWD-positive free-ranging deer. CWD prions were detected in 3 of the 656 deer sampled, two does and one adult buck. MDC will be developing a management strategy to reduce the effects on CWD on the free-ranging deer population in Missouri. Within the sampling area, as well as the rest of Missouri, efforts are being made to educate landowners, citizens, and hunters about CWD and its subsequent effects.

General Information about the 2011-12 Deer Season

Season Dates:

Archery Season: September 15 through January 15, closed during the November portion of the firearms deer season

Firearms Season:

Urban Portion: October 7 - 10

Youth Portion: November 5 - 6; January 7 - 8

November Portion: November 12 - 22

Antlerless Portion: November 23 - December 4

Muzzleloader Portion: December 17 - 27

Bag Limit:

Archery Deer: Archery Deer Hunting permits allows for the taking of two deer of either sex, except that only one antlered deer may be taken before the November portion of the firearms season. Unlimited numbers of additional antlerless deer may be taken on Archery Antlerless Deer Hunting Permits in selected counties.

Firearms Deer: Firearms Any-Deer and Antlerless Permits were sold over-the-counter in unlimited quantities. An Any-Deer Permit was valid for one deer of either sex in any county. A Firearms Antlerless Permit was valid for one antlerless deer of either sex in any county. An unlimited number of Firearms Antlerless Permits could be filled in 74 counties (only the urban portion of 3 of these counties), one could be filled in 29 counties (only the rural portion of 3 of these counties) and none could be filled in 14 counties.

Harvest Reporting: Successful hunters are required to report their harvest by 10:00 p.m. of the day of harvest using Telecheck (telephone or internet).

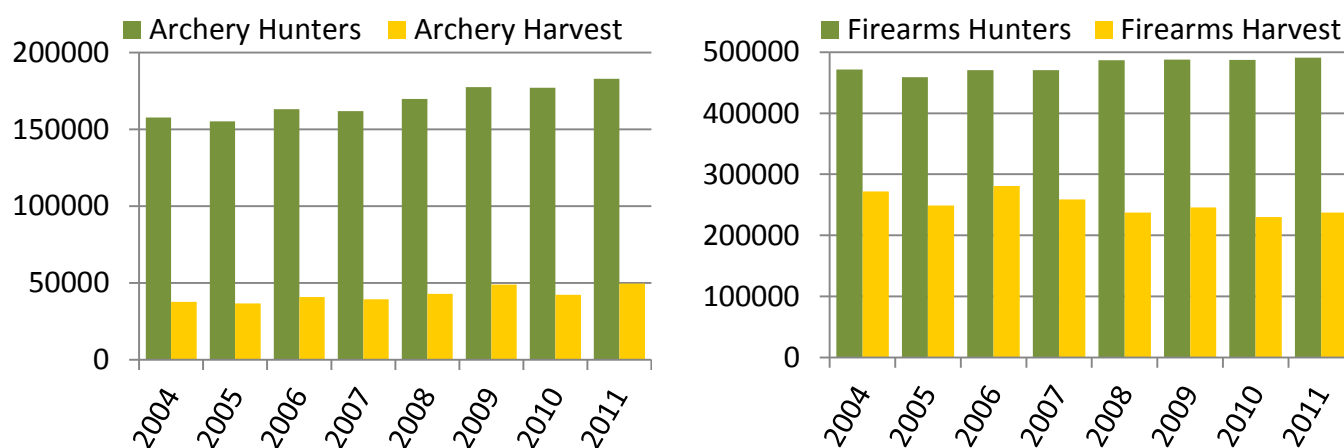


Figure 9. Trends in the number of individuals holding an archery and firearms deer hunting permit and harvest.

Archery Deer Season Summary

In 2011, archers harvested 49,530 including 25,849 does, 5,863 button bucks and 17,818 antlered bucks, which was a 17% increase from 2010 (Table 1). The 2011 archery harvest is the highest archery harvest total in Missouri, surpassing the previous harvest record from 2009 of 49,010 deer harvested. Sale of archery permits increased by 4% to 104,160; youth archery permits increased by 9% to 6,431 (Table 2). Individual nonresident archers totaled 9,408 which was a 3% increase from 2010. Total individuals possessing an archery deer permit in 2011 was 183,013, increasing by 3% from 2010's total of 177,061. This continues the apparent long term trend on increasing archery season participation, which is reflected in archery season deer harvest numbers.

Firearms Deer Season Summary

Resident firearms hunters purchased a total of 899,020 permits (i.e., all resident firearms permit types sold to youth and adults), which is up slightly (1%) from 2010 (Table 2). However, both the number of Firearms Any-Deer Permits (291,890) and the number of Firearms Antlerless Permits (219,676) (hunters age > 16 years) purchased declined by 1% for the second consecutive year (Table 2). The number of youth permits sold increased by 10%, compensating for the reduction in permits sold to hunters > 16 years of age. Landowners were issued 178,975 any-deer permits, up 2% from 2010 and nonresident firearms hunters purchased a total of 28,445 permits, up 2% from 2010 and similar to 2009 levels (Table 2). A total of 490,957 individuals possessed a firearms deer hunting permit in 2011, which was a 1% increase from 2010 (Table 3).

The early and late youth-only portions continue to be popular with 16,438 and 2,196 deer, respectively, harvested in 2011. The total youth portion harvest in 2011 increased by 27% from 2010. The total youth portion harvest consisted of 10,756 antlered bucks, 2,251 button bucks and 5,627 does (Table 1). Increasing harvest during the youth portions is most likely the result of increasing participation. The number of youth firearms any-deer and antlerless permits were both up 10% from 2010 totals.

Harvest during the Urban Zones portion stayed relatively stable from 586 in 2010 to 570 in 2011, only a 3% decrease. However, when comparing the Urban Zone harvest from 2009 of 1,457, harvest was 61% lower in 2011.

The muzzleloader portion harvest was 15,235, an 18% increase from 2010. However, when compared to the muzzleloader portion in 2009 of 15,915, harvest was 4% lower in 2011.

The 2011 antlerless portion harvest totaled 14,420, a 5% decrease from 2010 and a 35% decrease from 2009.

Managed Deer Hunts

Overall, hunters harvested 1,800 deer during the managed deer hunts in 2011, which is a 32% decrease from 2010. However, the 2011 managed deer hunt totals were fairly similar (2% decrease) to 2009's total of 1,842. The 2011 managed deer hunts harvest consisted of 431 antlered bucks, 304 button bucks, and 1,065 does.

2011-12 Deer Harvest Composition by Season & Portion

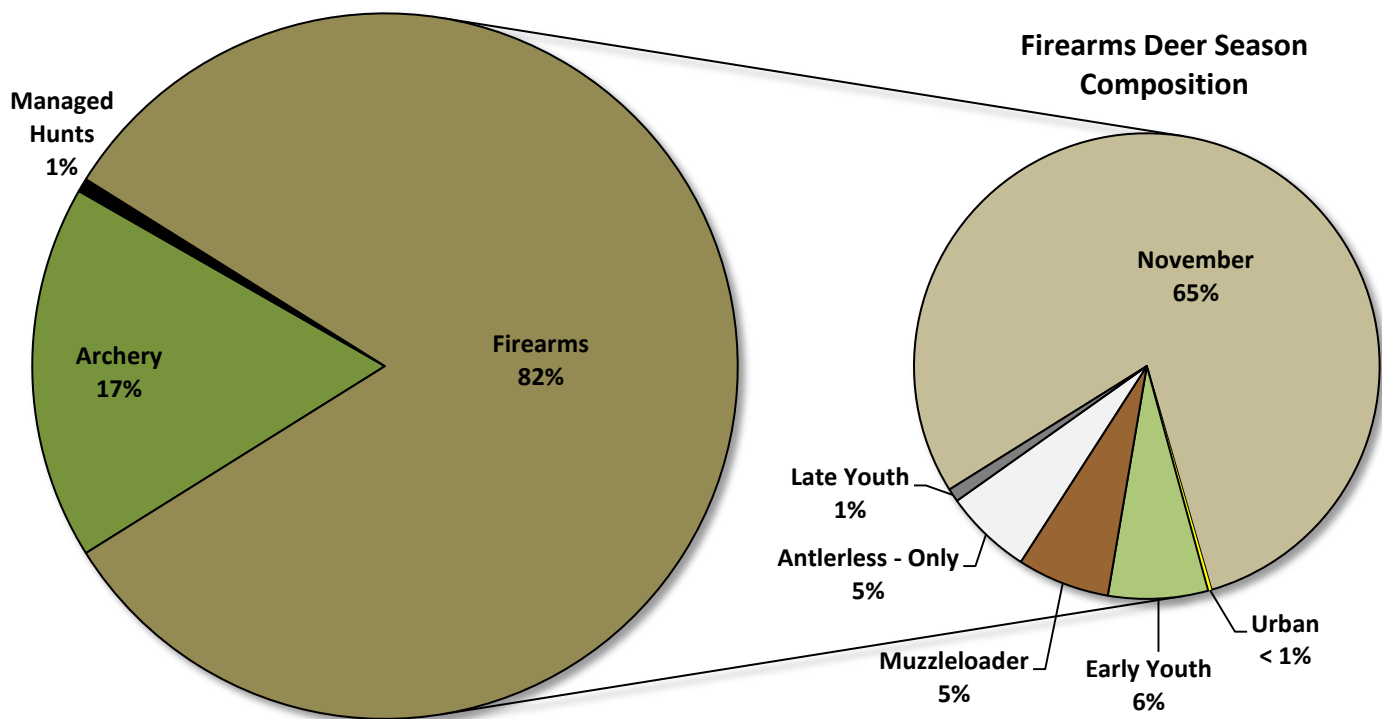


Figure 10. Deer harvest totals for 2011-12 composed by season and firearms season composed by portion totals.

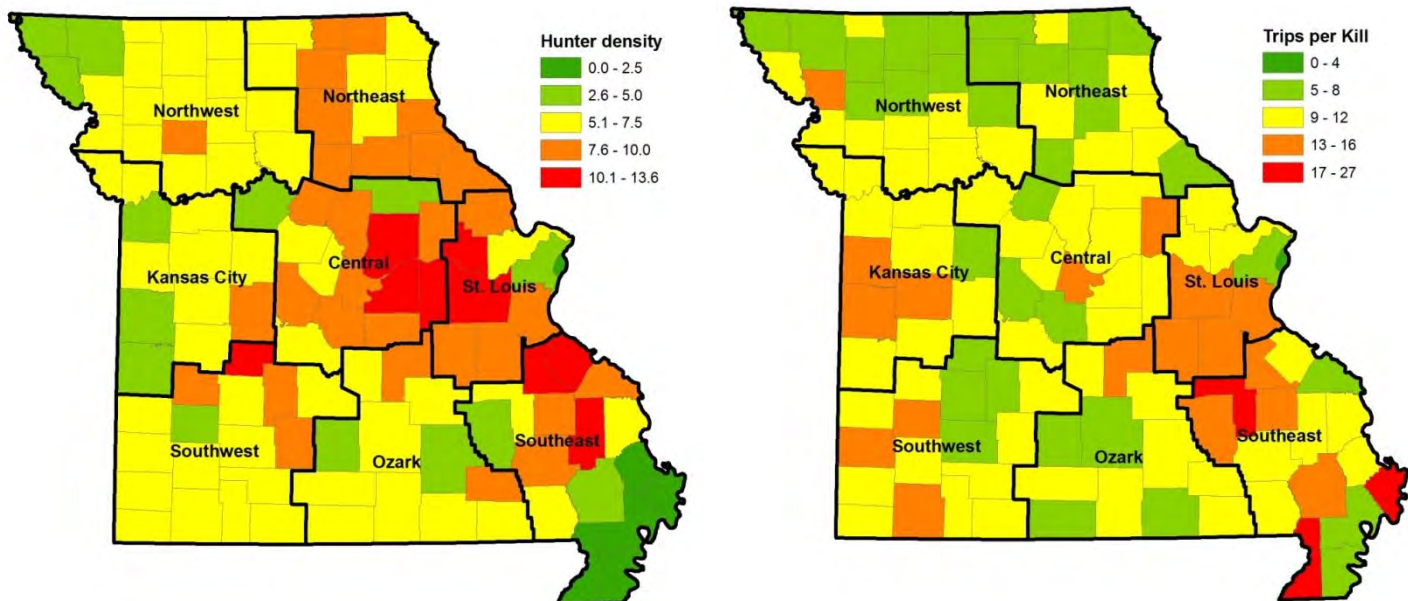


Figure 11. Number of firearms deer hunters per square mile and number of trips per kill estimated using the 2010 post season firearms deer hunter survey.

Table 1. Deer Season Harvest Summary

Season/Portion	Antlered Deer			Button Bucks			Does			Total		
	2010	2011	% Diff	2010	2011	% Diff.	2010	2011	% Diff.	2010	2011	% Diff.
Archery	15,909	17,818	12	4,996	5,863	17	21,467	25,849	20	42,372	49,530	17
Urban	7	5	-29	114	96	-16	465	469	1	586	570	-3
Early Youth	7,929	10,258	29	1,570	1,881	20	3,870	4,299	11	13,369	16,438	23
November	76,962	81,468	6	26,134	25,892	-1	83,648	81,045	-3	186,744	188,405	1
Muzzleloader	2,655	3,400	28	1,941	2,209	14	8,349	9,626	15	12,945	15,235	18
Antlerless - Only	148	153	3	2,987	2,857	-4	12,082	11,410	-6	15,217	14,420	-5
Managed Hunts	727	431	-41	442	304	-31	1,496	1065	-29	2,665	1800	-32
Late Youth	270	498	45	240	370	54	791	1,328	68	1,301	2,196	69
Total Firearms	87,971	95,782	9	32,986	33,305	1	109,205	108,177	-1	230,162	237,264	3
Total	104,607	114,031	9	38,424	39,472	3	132,168	135,091	2	275,199	288,594	5

Table 2. Summary of Permit Sales and Harvest by Permit Type

Permit Type	Number of Permits			Number of Deer Harvested		
	2010	2011	% Diff.	2010	2011	% Diff.
Permittee Archery	100,482	104,160	4	19,315	21,241	10
Landowner Archery	79,964	82,347	3	5,380	6,311	17
Youth Archery	5,880	6,431	9	618	838	36
Permittee Archery Antlerless	43,029	49,132	14	12,231	14,933	22
Landowner Archery Antlerless	123,759	133,844	8	4,318	5,657	31
Youth Archery Antlerless	1,501	1,817	21	228	324	42
Permittee Firearms Any-Deer	294,451	291,890	-1	69,076	71,572	4
Landowner Firearms Any-Deer	175,050	178,975	2	34,480	37,676	9
Youth Firearms Any-Deer	50,062	55,046	10	15,848	18,268	15
Permittee Firearms Antlerless	221,737	219,676	-1	75,213	73,243	-3
Landowner Firearms Antlerless	156,508	157,624	1	28,530	29,002	2
Youth Firearms Antlerless	21,787	23,922	10	6,592	7,268	10
Resident Firearms	891,807	899,020	1	218,659	225,404	3
Nonresident Firearms	27,788	28,445	2	11,080	11,569	4
Resident Archery	345,127	360,109	4	39,033	45,887	18
Nonresident Archery	9,408	9,844	5	3,057	3,391	11
Permittee Archery & Firearms	743,312	752,074	1	199,121	207,632	4
Landowner Archery & Firearms	535,281	552,790	3	72,708	78,619	8

Table 3. Deer Permit and Harvest Facts

	Archery	Firearms	Total ¹
Resident Permittees ¹	104,568	334,752	439,320
Non Resident permittees ¹	7,945	18,380	26,325
Landowners ¹	82,347	178,975	261,322
Total ²	183,013	490,957	511,475
Age Distribution of hunters			
≤ 10	1,393	20,665	-
11-15	10,070	48,859	-
16-40	81,064	182,775	-
≥ 41	90,486	239,657	-
Antlerless permit sales			
1	26,449	148,401	174,850
2	7,329	28,488	35,817
3	1,545	6,615	8,160
≥ 4	1,098	3,988	5,086
Number of deer taken			
0	146,624	307,872	309,740
1	27,489	142,596	145,507
2	6,360	31,585	39,280
3	1,613	6,364	10,855
≥ 4	927	2,540	6,093
Number of antlered deer taken			
0	165,788	395,768	403,838
1	16,674	94,818	102,181
2	547	369	5,219
3	4	2	237
Percentage taking;			
≥ 1 deer	19.88	37.29	39.44
1 deer	15.02	29.04	28.45
2 deer	3.48	6.43	7.68
≥ 3 deer	1.39	1.81	3.31
Percentage taking:			
1 antlered buck	9.11	19.31	19.98
2 antlered bucks	0.30	0.08	1.02
≥ 3 antlered bucks	0.00	0.00	0.05
Percentage of deer taken by nonresidents	6.8	4.9	5.2
Percentage of deer taken by landowners	24.1	28.1	27.2

¹ Number of any-deer permits issued² Number of individuals, including nonresidents, possessing a permit, not number of permits issued

Table 4. Archery and Firearms Harvest Totals for the 2011-12 Missouri Deer Season.

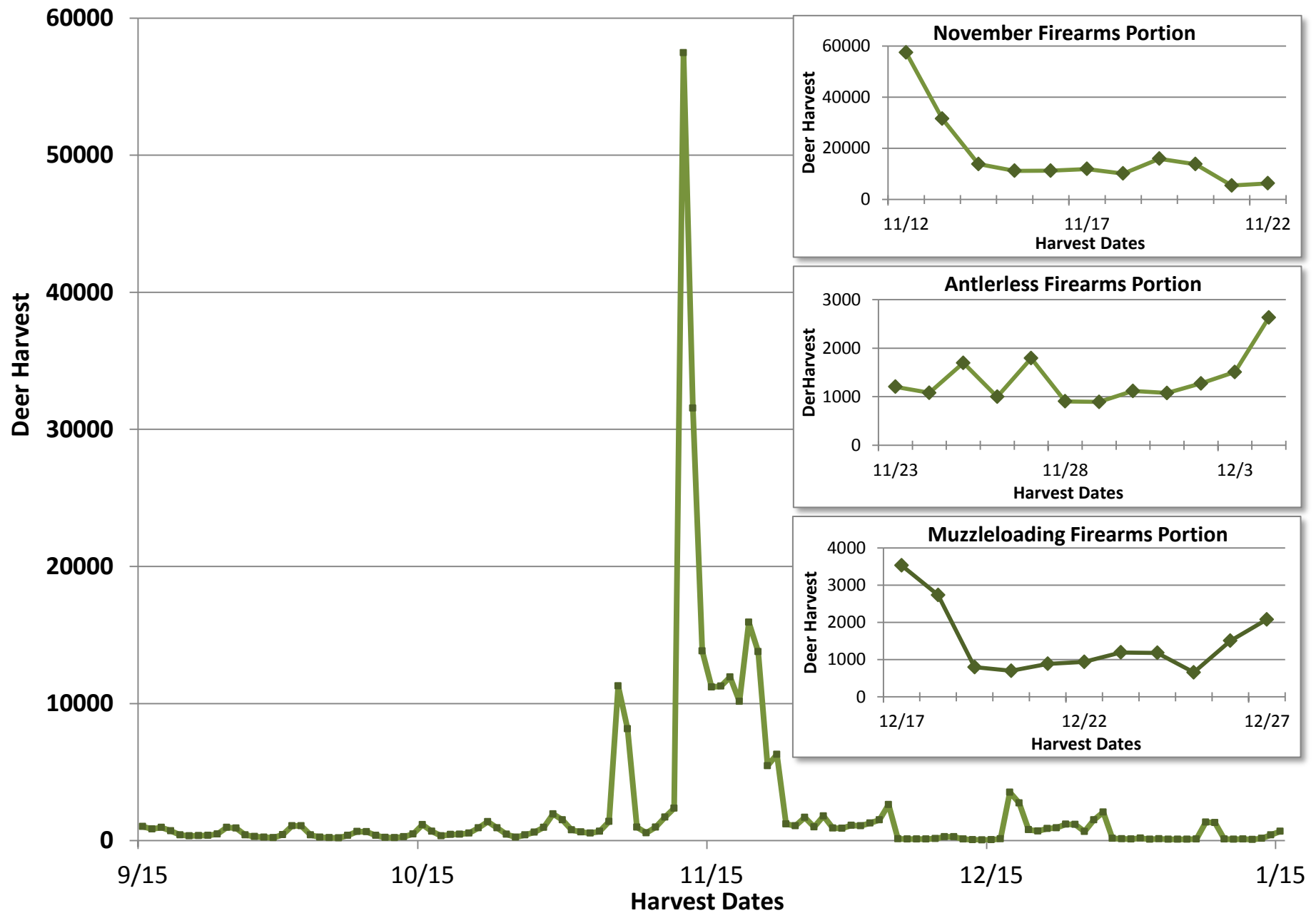
County	Archery				Firearms				Totals			
	Doe	Button Buck	Antlered Buck	Total	Doe	Button Buck	Antlered Buck	Total	Doe	Button Buck	Antlered Buck	Total
Adair	329	80	187	596	1643	523	1068	3234	1972	603	1255	3830
Andrew	115	20	94	229	608	210	631	1449	723	230	725	1678
Atchison	88	22	104	214	416	74	506	996	504	96	610	1210
Audrain	215	61	100	376	1088	393	807	2288	1303	454	907	2664
Barry	204	57	198	459	650	193	902	1745	854	250	1100	2204
Barton	242	33	137	412	696	202	702	1600	938	235	839	2012
Bates	162	28	86	276	985	272	700	1957	1147	300	786	2233
Benton	334	86	225	645	1909	627	1376	3912	2243	713	1601	4557
Bollinger	334	79	210	623	1066	325	1243	2634	1400	404	1453	3257
Boone	404	93	217	714	1327	415	1043	2785	1731	508	1260	3499
Buchanan	71	21	55	147	443	117	389	949	514	138	444	1096
Butler	161	36	175	372	538	152	542	1232	699	188	717	1604
Caldwell	112	15	80	207	727	193	745	1665	839	208	825	1872
Callaway	447	90	223	760	2017	664	1532	4213	2464	754	1755	4973
Camden	381	89	231	701	1444	450	885	2779	1825	539	1116	3480
Cape Girardeau	268	65	143	476	652	181	908	1741	920	246	1051	2217
Carroll	152	19	102	273	969	276	979	2224	1121	295	1081	2497
Carter	131	39	176	346	453	157	608	1218	584	196	784	1564
Cass	181	55	131	367	835	253	836	1924	1016	308	967	2291
Cedar	156	40	120	316	1071	319	763	2153	1227	359	883	2469
Chariton	149	28	105	282	968	256	826	2050	1117	284	931	2332
Christian	213	44	163	420	533	164	637	1334	746	208	800	1754
Clark	232	45	182	459	1159	358	897	2414	1391	403	1079	2873
Clay	367	76	212	655	410	97	469	976	777	173	681	1631
Clinton	76	13	64	153	495	152	441	1088	571	165	505	1241
Cole	130	37	87	254	687	232	500	1419	817	269	587	1673
Cooper	181	52	112	345	1114	329	851	2294	1295	381	963	2639
Crawford	251	61	239	551	1028	290	1206	2524	1279	351	1445	3075
Dade	101	18	86	205	386	162	648	1196	487	180	734	1401
Dallas	222	42	178	442	1031	324	864	2219	1253	366	1042	2661
Daviess	240	28	141	409	1120	333	1005	2458	1360	361	1146	2867
Dekalb	81	13	69	163	600	177	605	1382	681	190	674	1545

County	Archery				Firearms				Totals			
	Doe	Button Buck	Antlered Buck	Total	Doe	Button Buck	Antlered Buck	Total	Doe	Button Buck	Antlered Buck	Total
Dent	182	69	132	383	1096	324	1024	2444	1278	393	1156	2827
Douglas	208	44	157	409	962	284	1097	2343	1170	328	1254	2752
Dunklin	62	6	45	113	103	29	151	283	165	35	196	396
Franklin	486	125	274	885	1716	547	1460	3723	2202	672	1734	4608
Gasconade	282	66	167	515	1463	486	1077	3026	1745	552	1244	3541
Gentry	143	20	135	298	878	220	814	1912	1021	240	949	2210
Greene	291	70	254	615	806	200	696	1702	1097	270	950	2317
Grundy	139	23	95	257	718	196	628	1542	857	219	723	1799
Harrison	256	45	244	545	1323	383	1276	2982	1579	428	1520	3527
Henry	281	80	129	490	1566	493	1021	3080	1847	573	1150	3570
Hickory	187	59	122	368	1220	378	792	2390	1407	437	914	2758
Holt	131	15	94	240	541	122	576	1239	672	137	670	1479
Howard	174	37	130	341	983	238	861	2082	1157	275	991	2423
Howell	330	77	288	695	1868	607	1600	4075	2198	684	1888	4770
Iron	47	12	59	118	302	113	411	826	349	125	470	944
Jackson	534	116	361	1011	462	116	486	1064	996	232	847	2075
Jasper	277	43	248	568	630	195	1013	1838	907	238	1261	2406
Jefferson	565	136	276	977	1257	400	1046	2703	1822	536	1322	3680
Johnson	246	39	124	409	1078	395	916	2389	1324	434	1040	2798
Knox	294	67	191	552	1415	484	1019	2918	1709	551	1210	3470
Laclede	231	79	227	537	1252	442	1097	2791	1483	521	1324	3328
Lafayette	92	24	49	165	574	181	502	1257	666	205	551	1422
Lawrence	176	28	172	376	448	148	694	1290	624	176	866	1666
Lewis	169	41	124	334	1071	356	863	2290	1240	397	987	2624
Lincoln	355	104	205	664	1460	479	1206	3145	1815	583	1411	3809
Linn	345	62	188	595	1360	379	1050	2789	1705	441	1238	3384
Livingston	156	26	113	295	851	277	791	1919	1007	303	904	2214
Macon	450	108	249	807	2056	626	1589	4271	2506	734	1838	5078
Madison	137	41	91	269	371	152	575	1098	508	193	666	1367
Maries	173	53	112	338	880	303	698	1881	1053	356	810	2219
Marion	171	45	101	317	923	312	730	1965	1094	357	831	2282
McDonald	169	33	194	396	500	131	738	1369	669	164	932	1765
Mercer	238	51	214	503	970	259	882	2111	1208	310	1096	2614

County	Archery				Firearms				Totals			
	Doe	Button Buck	Antlered Buck	Total	Doe	Button Buck	Antlered Buck	Total	Doe	Button Buck	Antlered Buck	Total
Miller	248	55	118	421	1214	405	753	2372	1462	460	871	2793
Mississippi	21	1	19	41	38	15	168	221	59	16	187	262
Moniteau	103	26	59	188	647	201	511	1359	750	227	570	1547
Monroe	313	69	154	536	1429	528	1048	3005	1742	597	1202	3541
Montgomery	236	48	128	412	1266	448	1008	2722	1502	496	1136	3134
Morgan	340	70	176	586	1662	497	1147	3306	2002	567	1323	3892
New Madrid	39	3	27	69	55	17	162	234	94	20	189	303
Newton	240	40	247	527	625	176	844	1645	865	216	1091	2172
Nodaway	202	29	223	454	1263	297	1264	2824	1465	326	1487	3278
Oregon	273	64	245	582	1675	476	1173	3324	1948	540	1418	3906
Osage	377	89	224	690	1822	519	1391	3732	2199	608	1615	4422
Ozark	236	58	165	459	883	255	1121	2259	1119	313	1286	2718
Pemiscot	13	4	11	28	26	4	58	88	39	8	69	116
Perry	201	27	112	340	978	286	912	2176	1179	313	1024	2516
Pettis	233	46	118	397	1294	394	969	2657	1527	440	1087	3054
Phelps	219	53	147	419	835	272	721	1828	1054	325	868	2247
Pike	405	106	216	727	1841	660	1408	3909	2246	766	1624	4636
Platte	361	67	177	605	441	116	451	1008	802	183	628	1613
Polk	173	41	144	358	639	196	955	1790	812	237	1099	2148
Pulaski	197	51	136	384	591	212	556	1359	788	263	692	1743
Putnam	373	61	245	679	1314	349	1058	2721	1687	410	1303	3400
Ralls	213	42	105	360	1107	336	839	2282	1320	378	944	2642
Randolph	249	48	123	420	1273	400	886	2559	1522	448	1009	2979
Ray	117	31	89	237	782	208	753	1743	899	239	842	1980
Reynolds	96	29	116	241	503	166	592	1261	599	195	708	1502
Ripley	273	92	185	550	1095	325	898	2318	1368	417	1083	2868
Saint Charles	291	83	223	597	777	178	758	1713	1068	261	981	2310
Saint Clair	280	78	153	511	1647	534	1026	3207	1927	612	1179	3718
Saint Francois	205	68	130	403	574	187	649	1410	779	255	779	1813
Saint Louis	549	108	319	976	361	90	322	773	910	198	641	1749
Sainte Genevieve	234	41	71	346	1070	314	689	2073	1304	355	760	2419
Saline	143	24	71	238	782	225	701	1708	925	249	772	1946
Schuyler	145	27	102	274	878	289	603	1770	1023	316	705	2044

County	Archery				Firearms				Totals			
	Doe	Button Buck	Antlered Buck	Total	Doe	Button Buck	Antlered Buck	Total	Doe	Button Buck	Antlered Buck	Total
Scotland	332	63	227	622	1480	505	1010	2995	1812	568	1237	3617
Scott	55	13	43	111	202	59	241	502	257	72	284	613
Shannon	172	46	167	385	892	218	839	1949	1064	264	1006	2334
Shelby	297	80	175	552	1351	429	943	2723	1648	509	1118	3275
Stoddard	260	88	204	552	516	193	558	1267	776	281	762	1819
Stone	118	24	123	265	439	152	588	1179	557	176	711	1444
Sullivan	297	57	220	574	1417	419	1058	2894	1714	476	1278	3468
Taney	206	44	206	456	666	223	874	1763	872	267	1080	2219
Texas	276	68	265	609	1570	463	1722	3755	1846	531	1987	4364
Vernon	307	49	156	512	1428	459	946	2833	1735	508	1102	3345
Warren	209	59	139	407	924	313	771	2008	1133	372	910	2415
Washington	147	54	112	313	679	253	828	1760	826	307	940	2073
Wayne	390	107	277	774	1074	366	1200	2640	1464	473	1477	3414
Webster	187	45	202	434	739	216	911	1866	926	261	1113	2300
Worth	90	14	137	241	467	124	506	1097	557	138	643	1338
Wright	201	44	191	436	775	213	900	1888	976	257	1091	2324
Northwest	2901	495	2346	5742	15499	4253	14667	34419	18400	4748	17013	40161
Northeast	4269	939	2601	7809	20357	6574	15019	41950	24626	7513	17620	49759
Kansas City	3378	744	1921	6043	12629	3937	9698	26264	16007	4681	11619	32307
Central	3834	890	2155	6879	18396	5805	13765	37966	22230	6695	15920	44845
St. Louis	2853	730	1787	5370	8208	2550	7597	18349	11061	3280	9384	23719
Southwest	3393	740	3021	7154	12331	3821	13718	29870	15724	4561	16739	37024
Ozark	2698	705	2254	5657	12695	3806	12259	28760	15393	4511	14513	34417
Southeast	2523	620	1733	4876	8068	2559	9059	19686	10591	3179	10792	24562
GRAND TOTAL	25849	5863	17818	49530	108177	33305	95782	237264	134026	39168	113600	286794

2011-12 Daily Harvest Total



Regional Deer Harvest Trends

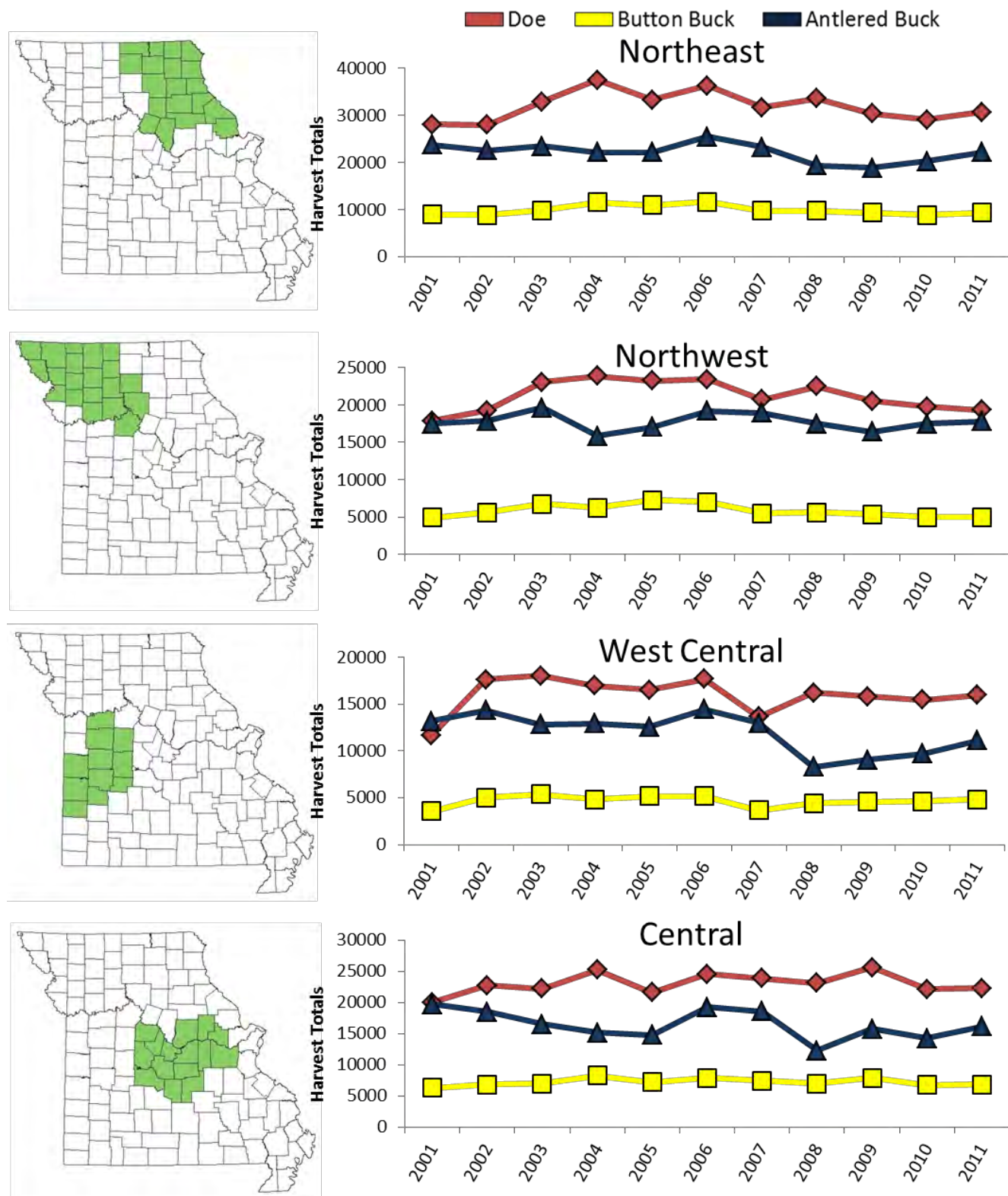


Figure 12. Doe, button buck, and antlered deer harvest totals for Northeast, Northwest, West Central, and Central regions in Missouri during 2001 to 2011.

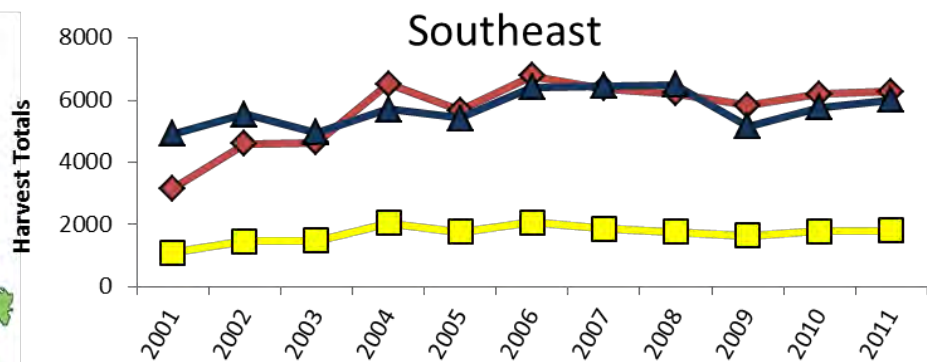
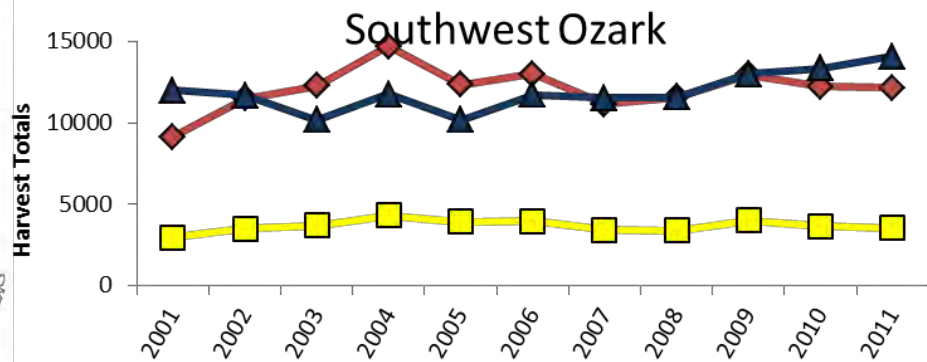
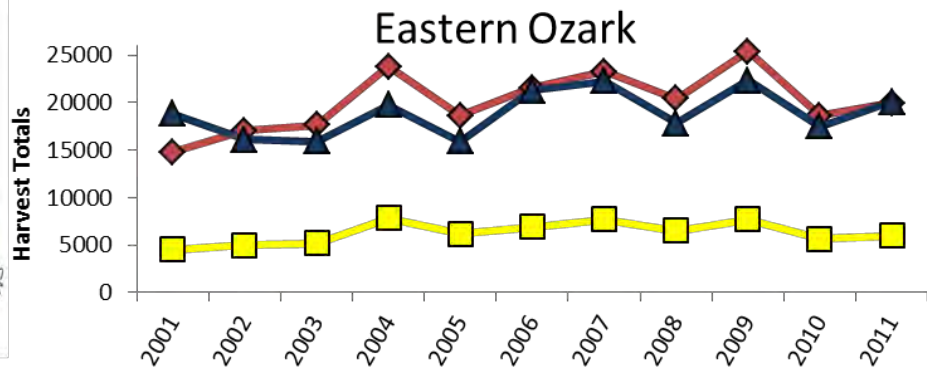
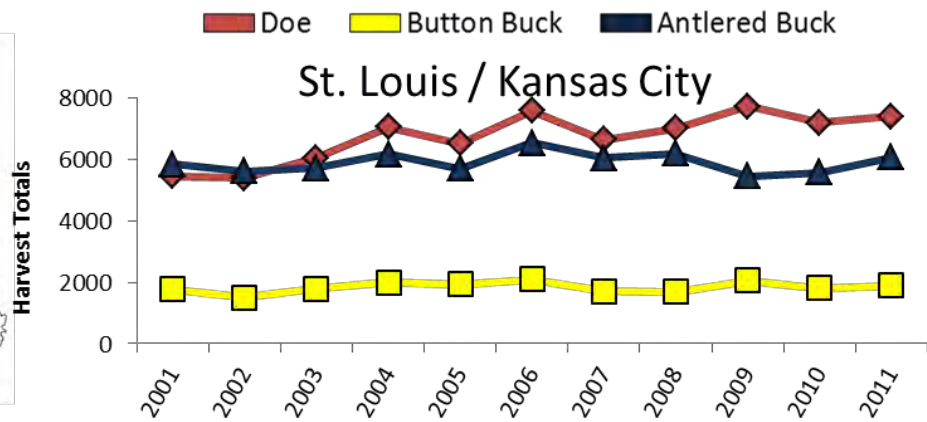


Figure 12 Continued. Doe, button buck, and antlered deer harvest totals for St. Louis / Kansas City, Eastern Ozark, Southwest Ozark, and Southeast regions in Missouri during 2001 to 2011.

Deer Management Information & Assistance

Deer Information Tailored to Hunters & Landowners

The University of Missouri (MU) Extension and Missouri Department of Conservation are collaborating on a publication series devoted solely to deer management. This information is intended for landowners, hunters, and wildlife enthusiasts that want to learn more about deer and managing deer in Missouri.

The publication series includes a wide variety of science-based information about deer management that will help landowners and hunters better manage deer. Several publications explain how to obtain population information, such as sex ratio, density, fawn recruitment, and age structure. Topics also include information on deer biology, including antler growth, ecology, and aging deer “on the hoof” and by jawbones



These publications are free to the public and available on MU Extension’s website (<http://extension.missouri.edu/main/DisplayCategory.aspx?C=82>). As of March 2012, there are 10 publications available, with several more being constantly added to provide new and diverse deer management information.

Deer Cooperative Assistance

Missouri is fortunate to have regulations set by county, instead of large regions like many other states, as this allows regulations to be customized to specific deer population demographics and land use within an area. However, deer populations can still vary within a county, meaning that county regulations might not be best suited for all areas within a county. Therefore, a more localized approach to deer management might be necessary for landowners and hunters to achieve their deer management goals. A great way to produce significant results is by establishing a cooperative, which is simply an organized group of neighbors that work collectively to achieve similar management goals

through habitat improvement, harvest management and education. Many cooperatives are focused on deer management, but not necessarily, as goals can be based on any wildlife (turkey, quail, non-game, etc.) or habitat goal.



Cuivre River Coop Sign.



Big Buffalo Creek Landowner Coop getting ready for a prescribed burn.

Cooperatives are managed and operated solely by their members; however, MDC is often willing to assist. For example, in some situations MDC may be able to provide development assistance, presentations and workshops for members on topics important to the cooperative’s goals, and any other education and technical guidance, so the cooperative can best achieve their management goals.

Private Land Conservationists (PLC) provide assistance to landowners interested in developing cooperatives in their area. Find your local PLC by searching “Who’s My Local Contact?” at <http://mdc.mo.gov>

Deer Program Research Projects

Deer density and habitat conditions affect reproductive parameters like fetal rates, conception rates, and age at first reproduction. The impact of nutrition on reproductive parameters is well known. Does maintained on a high-quality diet produced more fawns and bred at younger ages than does nutritionally and socially stressed. We have assumed that in heavily agricultural areas with an abundance of food and where deer populations are maintained at levels below biological carrying capacity that reproductive rates would not vary greatly. However, in previous studies conducted by the Missouri Department of Conservation, fawn conception rates in the Glaciated Plains (Figure 7.), the most fertile region of the state, declined from 70% in the 1950's to 34% in the 1990's. Antler characteristics (number of points, antler beam circumference) of yearling bucks also deteriorated over this same time period. Due to lower body fat and higher energy requirements fawns, are more sensitive to changes in social stress and resource availability than yearling and adult does. Declining fawn reproduction and yearling buck antler development occurred during a period of rapid growth in the size of the Missouri deer population. The decline in fawn reproductive rates suggests a density dependent relationship.

Deer populations across the state have steadily increased since the last evaluation of female reproduction in the early 1990's. Population simulations suggest that there were 1 million deer in Missouri in 1993 and 1.4 million today. If density-dependent processes are impacting deer populations in Missouri we would expect to see a change in reproductive rates since the last survey in 1993.

In an effort to evaluate female white-tailed deer reproductive characteristic we conducted field survey of reproductive status of female deer collected during the winter 2012 CWD sample collection effort in Linn and Macon counties. We detected pregnancy in 95% of adult does (> 2 years old), 47% of yearling does (>1 year old and < 2 years old), and 0% in does fawns (> 1 year old). Adult does averaged 1.8 fetuses per doe while yearling does averaged 1.6 fetuses per doe. Despite the decline in fawn pregnancy rate, body condition and reproduction in adult does doesn't appear to be affected. In addition to determining reproductive rates we estimated date of conception (Figure 13). Median date of conception was estimated to be November 11th.

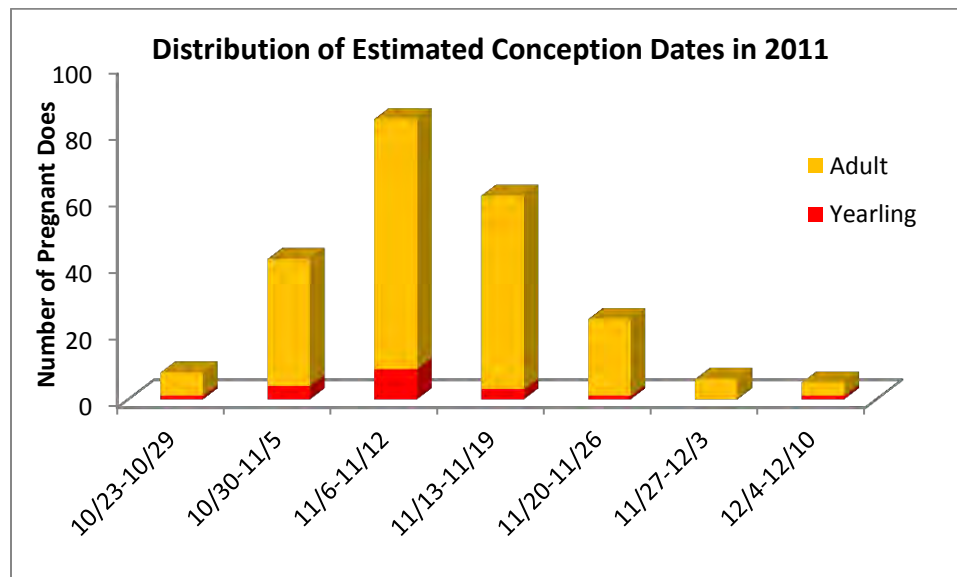


Figure 13. Distribution of estimated conceptions dates from female white-tailed deer collected in February and March of 2012 in Linn and Macon counties.



Missouri Department of Conservation

